

Amendments to claims:

This listing of claims will replace all prior versions of claims in the application.

Please amend claims 69, 71-74, 77, 79-81, 86-91 and 93 as indicated below.

Cancel claims 68 without prejudice or disclaimer to the subject matter claimed therein.

Listing of Claims

Claims 1 – 68 (canceled)

Claim 69 (currently amended): ~~[The]~~ An isolated nucleic acid that ~~[of claim 68, wherein the nucleic acid]~~ encodes a nuclear base transporter comprising the amino acid sequence as set forth in SEQ ID NO: 8.

Claim 70 (previously presented): The nucleic acid of claim 69, wherein the nucleic acid comprises the nucleic acid sequence as set forth in SEQ ID NO: 1.

Claim 71 (currently amended): ~~[The]~~ An isolated nucleic acid that encodes a nuclear base transporter ~~[of claim 68, wherein the nucleic acid comprises the nucleic acid]~~ and comprises the sequence as set forth in SEQ ID NO: 2.

Claim 72 (currently amended): The nucleic acid of claim ~~[68]~~ 69, wherein the nucleic acid is a DNA molecule.

Claim 73 (currently amended): A construct comprising the nucleic acid of claim ~~[68]~~ 69 or 71.

Claim 74 (currently amended): The construct of claim 73, wherein ~~[said]~~ the construct is a plasmid.

Claim 75 (previously presented): A host cell comprising the construct of claim 73.

Claim 76 (previously presented): The host cell of claim 75, wherein the host cell is selected from the group consisting of bacteria, yeast cells, mammalian cells and plant cells.

Claim 77 (currently amended): A transgenic plant, transgenic plant part, or seed of the transgenic

plant that comprises a nucleic acid of claim [68] 69 or 71.

Claim 78 (previously presented): The transgenic plant, transgenic plant part, or seed of claim 77, wherein said nucleic acid or fragment is integrated into a site on the genome that does not correspond to its natural position.

Claim 79 (currently amended): A process for producing a transgenic plant comprising the following steps:

- A. inserting the nucleic acid of claim [68] 69 or 71 into a plant cell to make a transformed plant cell; and
- B. regenerating a plant from the transformed plant cell.

Claim 80 (currently amended): A process for influencing [the] nuclear base transporter properties of a plant, part of a plant or of seeds, comprising inserting into a plant cell or plant the nucleic acid of claim [68] 69 or 71.

Claim 81 (currently amended): A method for the expression of a nuclear base transporter in a prokaryotic or eukaryotic cell, comprising transfecting said cell with the construct of claim 73 [~~such that said nucleic acid~~] under conditions that the nuclear base transporter is expressed.

Claim 82 (previously presented): The transgenic plant, transgenic plant part, or seed of claim 77, wherein said nucleic acid sequence is under the control of an element regulating expression.

Claim 83 (previously presented): A plant cell produced by the process of claim 80.

Claim 84 (previously presented): A plant produced by the process of claim 80.

Claim 85 (previously presented): A method of regenerating a plant comprising growing a plant from the plant cell of claim 83.

Claim 86 (currently amended): The nucleic acid of claim [68] 69 or 71, wherein [~~said~~] the nucleic acid complements a yeast cell that is deficient in *fcy2* expression.

Claim 87 (currently amended): The nucleic acid of claim [68] 69 or 71, wherein [~~said~~] the

nuclear base transporter transports at least one compound selected from the group consisting of nuclear bases, nucleosides, cytokinins and alkaloids.

Claim 88 (currently amended): The nucleic acid of claim 87, wherein [~~said~~] the nuclear bases are selected from the group consisting of adenine, cytosine and hypoxanthine.

Claim 89 (currently amended): The nucleic acid of claim 87, wherein [~~said~~] the nucleosides are selected from the group consisting of adenosine and cytidine.

Claim 90 (currently amended): The nucleic acid of claim 87, wherein [~~said~~] the cytokinins are selected from the group consisting of zeatine and kinetine.

Claim 91 (currently amended): An isolated nucleic acid that is complementary to the nucleic acid of claim [~~68~~] 69 or 71.

Claim 92 (previously presented): A construct comprising the nucleic acid of claim 91.

Claim 93 (currently amended): The construct of claim 92, wherein [~~said~~] the construct is a plasmid.

Claim 94 (previously presented): A method for inhibiting the expression of an endogenous nuclear base transporter in a prokaryotic or eukaryotic cell comprising inserting into said cell the nucleic acid of claim 91, wherein said expression inhibits the expression of an endogenous nuclear base transporter.